

Certificate of Analysis

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Product Name: (Z)-Pugnac

Catalog No.: 3384

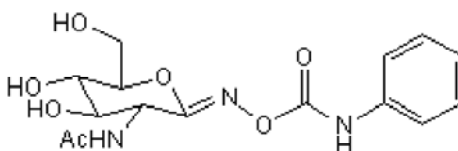
Batch No.: 8

CAS Number: 132489-69-1

IUPAC Name: O-(2-Acetamido-2-deoxy-D-glucofuranosylidene)amino-Z-N-phenylcarbamate

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₅H₁₉N₃O₇
Batch Molecular Weight: 353.33
Physical Appearance: White solid
Solubility: DMSO to 100 mM
Storage: Desiccate at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

Melting Point: Between 190 - 192°C
HPLC: Shows 98.5% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	50.99	5.42	11.89
Found	51.04	5.33	11.81

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

(Z)-Pugnac is an O-GlcNAc-β-N-acetylglucosaminidase (O-GlcNAcase) and β-hexosaminidase inhibitor (K_i values are 46 and 36 nM respectively) that increases O-GlcNAc levels ~ 2-fold in HT29 cells. Z-linked isomer is more potent than the E isomer.

Physical and Chemical Properties:

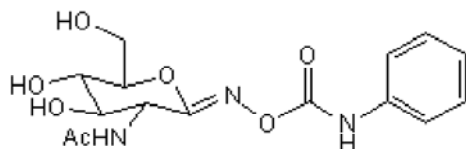
Batch Molecular Formula: C₁₅H₁₉N₃O₇

Batch Molecular Weight: 353.33

Physical Appearance: White solid

Minimum Purity: ≥99%

Batch Molecular Structure:



References:

Perreira et al (2006) Inhibition of O-GlcNAcase by PUGNAc is dependent upon the oxime stereochemistry. *Bioorg.Med.Chem.* **14** 837. PMID: 16214344.

Macauley et al (2005) O-GlcNAcase uses substrate-assisted catalysis. *J.Biol.Chem.* **280** 25313. PMID: 15795231.

Dong and Hart (1994) Purification and characterization of an O-GlcNAc selective N-acetyl-β-D-glucosaminidase from rat spleen cytosol. *J.Biol.Chem.* **269** 19321. PMID: 8034696.

Storage: Desiccate at -20°C

Solubility & Usage Info:

DMSO to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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